

Appendix C

A21 / A205 Catford Town Centre

Do Maximum Option 2

Stage 1 Road Safety Audit

Ref: 3981/007/A205/TLRN/2022

Prepared for:

TfL Investment and Delivery Planning (IDP)

By:

Road Safety Audit

TfL Engineering – Roads, Streets and Places (RS&P)

Prepared by: [REDACTED], Audit Team Leader

Checked by: [REDACTED], Audit Team Member

Approved by: [REDACTED]

Version	Status	Date
A	Audit report issued to Client	11/07/2022



1.0 INTRODUCTION

1.1 Commission

- 1.1.1 This report results from a Stage 1 Road Safety Audit carried out on the A21 / A205 Catford Town Centre, Do Maximum Option 2 proposals.
- 1.1.2 The Audit was undertaken by TfL Road Safety Audit in accordance with the Audit Brief issued by the Client Organisation on 6 June 2022. It took place at the Palestra offices of TfL on 27 June 2022 and comprised an examination of the documents provided as listed in Appendix A, plus a visit to the site of the proposed scheme.
- 1.1.3 The visit to the site of the proposed scheme was made on 27 June 2022. During the site visit the weather was overcast and the existing road surface was damp.

1.2 Terms of Reference

- 1.2.1 The Terms of Reference of this Audit are as described in TfL Procedure SQA-0170 dated May 2014. The Audit Team has examined and reported only on the road safety implications of the scheme as presented and how it impacts on all road users and has not examined or verified the compliance of the designs to any other criteria. However, to clearly explain a safety problem or the recommendation to resolve a problem the Audit Team may, on occasion, have referred to a design standard without touching on technical audit. An absence of comment relating to specific road users / modes in Section 3 of this report does not imply that they have not been considered; instead the Audit Team feels they are not adversely affected by the proposed changes.
- 1.2.2 This Safety Audit is not intended to identify pre-existing hazards which remain unchanged due to the proposals; hence they will not be raised in Section 3 of this report as they fall outside the remit of Road Safety Audit in general as specified in the procedure SQA-0170 dated May 2014. Safety issues identified during the Audit and site visit that are considered to be outside the Terms of Reference, but which the Audit Team wishes to draw to the attention of the Client Organisation, are set out in Section 4 of this report.
- 1.2.3 Nothing in this Audit should be regarded as a direct instruction to include or remove a measure from within the scheme. Responsibility for designing the scheme lies with the Designer and as such the Audit Team accepts no design responsibility for any changes made to the scheme as a result of this Audit.
- 1.2.4 In accordance with TfL Procedure SQA-0170 dated May 2014, this Audit has a maximum shelf life of 2 years. If the scheme does not progress to the next stage in its development within this period, then the scheme should be re-audited.
- 1.2.5 Unless general to the scheme, all comments and recommendations are referenced to the detailed design drawings and the locations have been indicated on the plan located in Appendix B.
- 1.2.6 It is the responsibility of the Design Organisation to complete the Designer's response section of this Audit report. Where applicable and necessary it is the responsibility of the Client Organisation to complete the Client comment section of this Audit report. Signatures from both the Design Organisation and Client Organisation must be added within Section 5 of this Audit report. A copy of which must be returned to the Audit Team.

1.3 Main Parties to the Audit

1.3.1 Client Organisation

Client contact details: [REDACTED] TfL IDP

1.3.2 Design Organisation

Design contact details: [REDACTED] – TfL Engineering

1.3.3 Audit Team

Audit Team Leader: [REDACTED] – TfL Road Safety Audit

Audit Team Member: [REDACTED] – TfL Road Safety Audit

1.3.4 Other Specialist Advisors

Specialist Advisor Details: None present

1.4 Purpose of the Scheme

1.4.1 The purpose of the scheme is:

Catford is the London Borough of Lewisham's second largest town centre and the civic heart of the borough. Regeneration of the area is considered to be overdue. The Project proposes to transform the town centre from a traffic dominated place to one that supports more people to walk, cycle, access public transport and live in the area. The project aligns with the Mayor's Transport Strategy by supporting London's growth whilst embedding the Healthy Streets approach to urban design.

The existing gyratory places high motor traffic flows through the town centre causing severance and creating a hostile environment for pedestrians and cyclists. The existing pedestrian crossings are considered difficult to negotiate and many of them are not placed at desire lines.

The scheme seeks to facilitate town centre regeneration by removing the existing gyratory, reallocating road space to improve the urban realm and improve conditions for pedestrians, cyclists, and buses*.

*Taken directly from the Audit Brief.

1.5 Special Considerations

1.5.1 The Audit Team did not access the private grounds of St. Dunstan's Sports Ground as part of the site visit.

2.0 ITEMS RAISED IN PREVIOUS ROAD SAFETY AUDITS

A previous Stage 1 Road Safety Audit was undertaken by TfL Road Safety Audit in November 2021 (Ref: 3849/007/A205/TLRN/2021). That Audit was on a different design iteration of this scheme which is the reason for the request of this new Stage 1 Road Safety Audit. As such, the problems raised in the previous RSA1 report are not provided below.

3.0 ITEMS RAISED AT THIS STAGE 1 ROAD SAFETY AUDIT

This section should be read in conjunction with Paragraphs 1.2.1, 1.2.2 and 1.2.3 of this report.

3.1 GENERAL

3.1.1 PROBLEM

Location: General to scheme – Opposed right turns at signal-controlled junctions.

Summary: The introduction of opposed right turns at the signal controlled junctions may increase the risk of failure to give way type collisions.

The removal of the gyratory introduces a number of opposed right turns at signal controlled junctions. Right turning traffic will be required to gap seek between opposing traffic flows. This could result in failure to give way type collisions.

RECOMMENDATION

It is recommended that where feasible, the signal staging is adjusted to remove opposed right turns.

Design Organisation Response	Accepted / Part Accepted / Rejected
Opposed right turns have been avoided where possible but four do remain. In all cases the opposed traffic is not opposed by other right turning movements and as a consequence the visibility of drivers waiting to turn is not hindered by other turning traffic within the junction. This should mitigate the risk. In order to remove the risk completely it would be necessary to add stages to the junction method of control. This would increase delays for all road users at the junctions and may lead to other issues, including delays for buses and increased risks for pedestrians who may seek to cross in gaps rather than waiting for the pedestrian phase.	
Client Organisation Comments	
Agree with designer's response. It is infeasible to design out all opposed right turns.	

3.1.2 PROBLEM

Location: General to scheme – Reverse stagger pedestrian crossing facilities.

Summary: The provision of reverse stagger pedestrian crossings may invite pedestrians to ignore the stagger and cross in a more direct, straight ahead movement, increasing the potential for collisions with opposing traffic.

Reverse stagger pedestrian crossings are proposed at a number of the junctions. The 'non preferred' arrangement guides pedestrians to 'walk away' from approaching traffic. The arrangement may invite pedestrians to ignore the stagger and cross in a straight-ahead movement, particularly at locations where the crossing is off the desire line. Any pedestrian performing this manoeuvre may do so behind the stop-line, and therefore potentially between stationary, accelerating, or decelerating vehicles thereby increasing the potential for collisions with opposing traffic.

RECOMMENDATION

It is recommended that a straight across single-stage facility is provided to better serve the likely pedestrian desire lines. Alternatively, provide measures to ensure compliance of the stagger by pedestrians. This may require the provision of an appropriate pedestrian deterrent.

Design Organisation Response	Accepted / Part Accepted / Rejected
<p>Although it is acknowledged that reverse staggers are not best practice this layout is not uncommon in London within signalised junctions as it reduces the lost time within the junction and reduces delays for all road users, including pedestrians.</p> <p>Straight across facilities have been proposed wherever possible but such facilities can significantly increase delays at junctions, increasing the cycle time and causing long delays for pedestrians who may be unwilling to wait and seek to gap accept, with the attendant risks. Initial modelling suggested that straight across facilities at the new junction of Catford Road & Bromley Road resulted in significant delays and required a much higher cycle time than was desirable for junction with pedestrian movements.</p> <p>Studies have shown that the provision of pedestrian guard railing creates other risks and it is not generally introduced in current schemes. No other pedestrian deterrents are felt to be appropriate.</p> <p>As the scheme develops it will be ensured that appropriate measures are provided to safely guide those with a disability through the junctions.</p>	

Client Organisation Comments

Agree with designer's response. It is infeasible to include straight across or traditional staggered crossings at all locations.

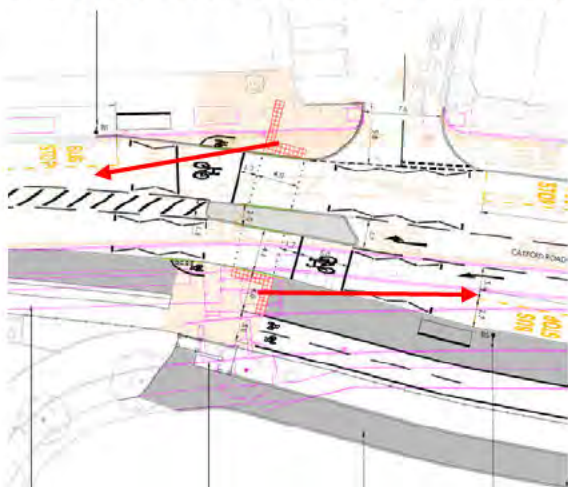
3.2 DRAWING NO. PJ569C-RSM-FEA-07-SK-TE-01-0001

3.2.1 PROBLEM

Location: A1 – Catford Road, New Toucan crossing outside of the station.

Summary: Stationary buses may obstruct intervisibility between pedestrians / cyclists waiting at the crossing and road users approaching the crossing. This could increase the risk of crossing users being struck by opposing traffic.

Bus stops are proposed on the immediate approaches to the new Toucan crossing. Stationary buses may obstruct intervisibility between pedestrians / cyclists waiting at the crossing and road users approaching the crossing. Pedestrians / cyclists crossing out of phase may therefore fail to see or be seen by drivers. This could increase the risk of crossing users being struck by opposing traffic. The problem may be exacerbated by the short length of zig-zag markings which also reduce driver awareness of the presence of the crossing.



RECOMMENDATION

It is recommended that suitable visibility is provided to / from the crossing, taking account of stationary buses within the adjacent bus stops and that the length of zig-zag markings is increased to improve awareness of the crossing.

Design Organisation Response	Accepted / Part Accepted / Rejected
<p>The location of the proposed crossing is very constrained.</p> <p>The existing bus stops either side of the proposed crossing are very busy with 41bph both east and westbound in the peaks. Increasing the length of the zig-zag markings would require the bus stops to be relocated or the cages to be extended or curtailed. There is no scope to extend the cage length. Reducing the length of the bus stop cages would not reduce the number of buses stopping but would force buses to stop outside the stop extents on the approaches to the stops and may cause issues at these locations or problems for passengers seeking to board or alight. Similarly there is no scope to relocate the stops away from the crossing owing to the bridge over the railway line to the west of Doggett Road and the close proximity of Ravensbourne Park to the west and Nelgarde Road to the east. Removing the bus stops would remove a key interchange. The closest stops are currently 200m to the east and 300m to the west. Those to the east are proposed to be relocated as part of</p>	

this scheme and will then be 325m away.

The design has been reviewed and the visibility on the northern kerb to eastbound traffic has been increased to 28m and to 30m on the southern kerb to westbound traffic (the visibility has been measured from a point 0.5m back from the kerb at the studs closest to the oncoming traffic to a point 1m off the bus stop cage).

Manual for Streets 1 (Table 7.1) gives a derived sight stopping distance of 22m for approach speeds of 20mph, but recommends that the SSD be adjusted for bonnet length at shorter stopping distances, which increases the SSD to 25m. MfS advises that these SSDs are appropriate for locations where buses and HGVs make up less than 5% of the traffic flow. At this location buses and HGVs make up c.7% of the flow. HGVs have different deceleration characteristics to cars and a graph in MfS2 indicates that at 20mph a SSD of in the order of 29m (32m when adjusted for bonnet length) would be more appropriate.

Although the design has been developed assuming a 20mph speed limit there is a risk that vehicles will be travelling in excess of this speed. A 7 day speed survey in March 2019 at the bridge recorded an eastbound 85th percentile speed of 26mph and a westbound 85th percentile speed of 30mph.

In an attempt to mitigate the risk for eastbound traffic and encourage lower speeds the lane past the bus stop has been reduced. Vehicles overtaking a bus at the stop must enter the central hatched area to overtake and it is hoped that this will encourage caution and lower speeds.

A central island is proposed and vehicles overtaking buses should have clear visibility to the offside primary signal heads at the crossing, similarly pedestrians will be able to see the pedestrian heads, the risk is for those pedestrians who choose to cross against the red man.

As the visibility is on the minimum it is accepted that there is a risk to those pedestrians who choose to cross against the red man when there is a bus at the stop.

A pedestrian desire line has been observed at this location. It is a key inter change between the rail and bus networks. There are no existing controlled pedestrian crossings over Catford Road between Catford Hill, 260m to the southwest, and Canadian Avenue, 150m to the east. When the scheme is completed a new crossing will be introduced 100m to the east, but it is not anticipated that pedestrians will walk to this crossing. Although there are no controlled crossings there are two existing subways at the Catford stations. The subway to the west of the railway line is more open and has natural surveillance from the new residential blocks in Adenmore Road to the north and, to a lesser extent, by the retail centre and car park to the south. However, on the south side of the subway the only direct access to the southern footway of Catford Road is via a flight of stairs, the ramped access involves an additional 160m walk. The subway on the east side of the rail line is unattractive and has no natural surveillance. Even if improved it is unlikely to be used.

An analysis of the collision data for the 36 months from 1st December 2014 to 30th November 2017 suggests 5 collisions involving pedestrians in the vicinity of the new crossing, of which 1 was serious and the remainder slight. Of the 5 collisions at least

3 appeared to involve pedestrians crossing Catford Road.

Client Organisation Comments

Agree with the designer's response & proposed amendments. Although the design is very tight for accepted minimum design parameters, a crossing at this location is a significant improvement on no crossing at all in light of it being a known desire line with a pedestrian collision history.

3.2.2 PROBLEM

Location: A2 – Catford Road, Southern side of Toucan crossing outside of the station.

Summary: Tight alignment for cyclists manoeuvring across the crossing and transitioning between on and off carriageway facilities may increase the risk of conflict with pedestrians.

The segregated cycle track on the southern side of the road terminates directly adjacent to the proposed Toucan crossing. Westbound cyclists using the Toucan crossing to reach the facility may be unable to access the facility within the proposed confinements. In addition, eastbound cyclists exiting the cycle track and looking to rejoin the carriageway may not be able to do so without obstructing the path of pedestrians. This could increase the risk of pedestrian and cycle collisions at the southern side of the crossing.



RECOMMENDATION

It is recommended that a longer distance of shared footway is afforded between the end of the cycle track and the Toucan crossing to allow cyclists more space to manoeuvre between the appropriate on and off carriageway transitions.

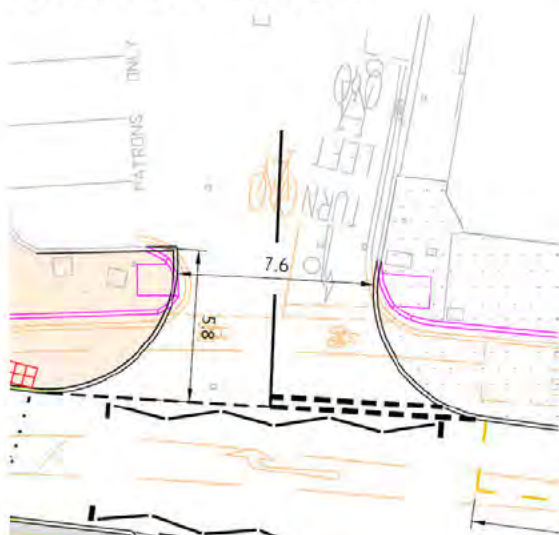
Design Organisation Response	Accepted / Part Accepted / Rejected
Design amended to increase length of shared footway by 4m on east side of toucan crossing and to cover full extent of jug handle on west extent.	
Client Organisation Comments	
Agree with designer's response and proposed design amendments.	

3.2.3 PROBLEM

Location: A3 – Catford Road j/w Doggett Road.

Summary: A lack of a pedestrian crossing may increase the risk of pedestrian trips and falls.

The removal of the existing uncontrolled pedestrian crossing is planned as part of the junction buildout however, no replacement dropped crossing is proposed. A lack of appropriate dropped crossing facilities for pedestrians may increase the risk of trips and falls over raised kerbs.



RECOMMENDATION

It is recommended that suitable pedestrian provision is provided at the junction.

Design Organisation Response	Accepted / Part Accepted / Rejected
Appropriate dropped kerbs and tactile paving added	
Client Organisation Comments	
Agree with Designer's response and design amendments.	

3.3 DRAWING NO. PJ569C-RSM-FEA-07-SK-TE-01-0002

3.3.1 PROBLEM

Location: B1 – Catford Road eastbound junction with Thomas’ Lane.

Summary: Eastbound lane imbalance could result in side swipe type collisions.

There are two eastbound lanes at the junction entry and only a single lane, albeit wide, on the junction exit. There is concern that a lack of a suitable merge arrangement on the junction exit from 2 to 1 lanes could increase the risk of side swipe type collisions.



RECOMMENDATION

It is recommended that measures are provided to ensure suitable lane balance through the junction.

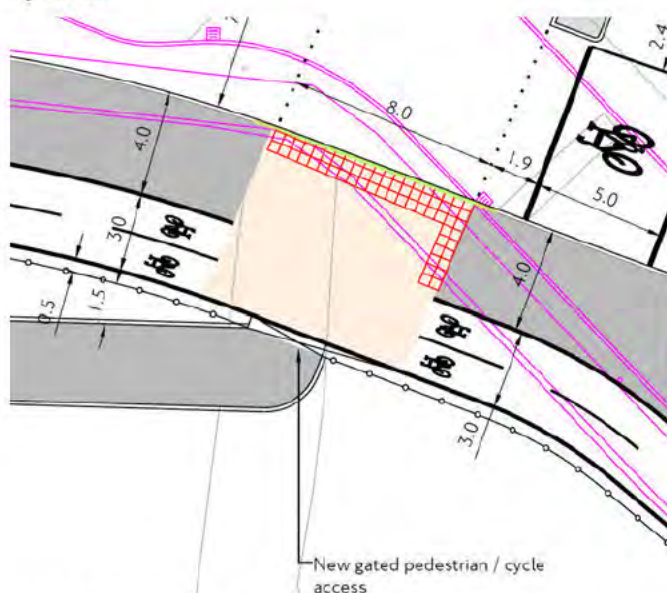
Design Organisation Response	Accepted / Part Accepted / Rejected
<p>Two lanes are required on the eastbound approach to the Thomas Lane junction to allow vehicles to pass stationary buses at Stop P 16m to the west of the junction, but owing to constraints to the east at the Canadian Avenue junction there is only one westbound ahead lane. It is therefore necessary to narrow to 1 lane over c.75m (from stop line to stop line). A similar merge exists over a shorter length in the existing layout.</p> <p>The use of deflection arrows to TSRGD 1014 was reviewed but it was considered that there was a risk that drivers may misunderstand them, move into the right turn lane with a risk of conflict as they try to proceed ahead.</p> <p>The modelling suggests a number of vehicles will be turning right into Canadian Avenue which may mitigate the merge risk.</p>	
Client Organisation Comments	
<p>Agree with Designer’s response.</p>	

3.3.2 PROBLEM

Location: B2 – Catford Road eastbound junction with Thomas’ Lane; new pedestrian/cycle link

Summary: Restricted visibility between opposing pedestrians and cyclists may increase the risk of collisions between pedestrians and cyclists.

A fence and gate are proposed between the cycle track and new gated pedestrian / cycle access. There is concern that the horizontal alignment of the connection to the new access into the cycle track could be difficult for cyclists travelling west to south to negotiate and that the gate and fence could further exacerbate this issue by reducing forward visibility. This may increase the risk of collisions between pedestrians and cyclists.



RECOMMENDATION

It is recommended that suitable geometry is provided to allow west to south cyclists to access the facility and that the fence and gate are located behind the junction visibility splays.

Design Organisation Response	Accepted / Part Accepted / Rejected
Client Organisation Comments	
The fence and gate have been set back to allow pedestrians and cyclists to wait within the playing field area for an opportunity to cross the cycle track or for the gate to be opened. The fence has been set back to allow a 17m visibility splay (the SSD for 20kph from LTN 1/20) to and from the cycle track at a distance 2.4m back from the track. This will however require an additional 43m ² of land from St Dunstan’s College.	
Agree with designer’s response and proposed design amendments.	

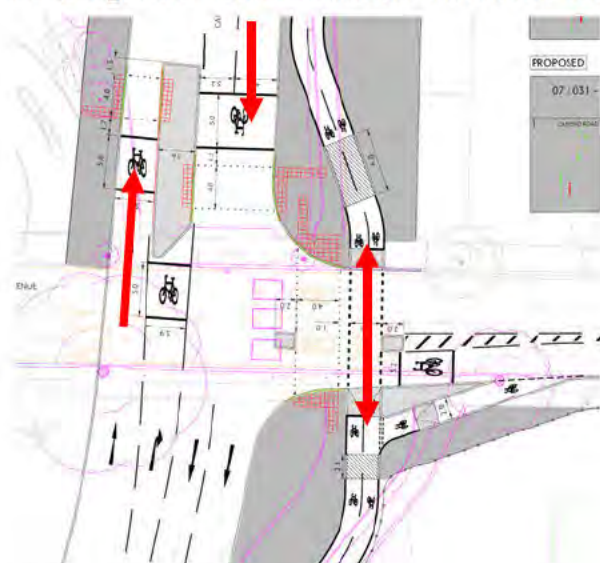
3.4 DRAWING NO. PJ569C-RSM-FEA-07-SK-TE-01-0003

3.4.1 PROBLEM

Location: C1 – Catford Road junction with Canadian Avenue.

Summary: Cyclists may stay on the carriageway rather than use the segregated facilities if it is perceived to be a quicker / more direct route. This could increase the risk of collisions between cyclists and general traffic.

The proposed method of control requires east / westbound cyclists to proceed with pedestrians rather than with traffic travelling in the same direction. While the signal timings at this stage are unknown, it is likely that east / westbound general traffic will receive more green time than pedestrians and cyclists. As a result, some cyclists may instead choose to stay on carriageway rather than utilise the segregated facilities as it could be quicker and more direct. Cyclists staying on carriageway may be at a greater risk of collisions with motor vehicles.



RECOMMENDATION

It is recommended that the signal staging / green timing given to cyclists is equivalent to that afforded to general traffic travelling in the same direction to ensure that the cycle facilities are given a similar level of priority and to encourage their use.

Design Organisation Response	Accepted / Part Accepted / Rejected
<p>Giving cyclists the same green timing as general traffic travelling in the same direction has been discussed with Network Performance and although not modelled it is anticipated that this would create extensive delays for general traffic, including buses, at this junction. This may result in queuing through the closely associated junctions to the east and west and may result in conflicts at those junctions. In addition it is likely that a longer cycle time would be required which would increase delays for all junction users, including pedestrians and cyclists. With longer wait times pedestrians may be more likely to cross against the red man increasing the risk of conflict with vehicles.</p> <p>The east-west cycle facility proposed as part of this scheme runs only from Sangley Road in the east to the rail bridge in the west. The highway over the bridge and to the west of the scheme is not ideal for cyclists and it envisaged that only confident cyclists would use the corridor. These cyclists may not use the proposed facility</p>	

owing to the limited length and the delays which would be incurred joining and leaving the facility. The facility has been included in this scheme to protect the space for a future proposal (not part of this scheme and not funded) to provide a pedestrian and cycle bridge to the south of the existing rail bridge which would link into the popular Ravensbourne Link, part of NCN Route 21.

To assist east-west cyclists who do not use the off carriageway facility appropriate lane widths, ASLs and passing width at bus stops has been included in the carriageway design.

Client Organisation Comments

Agree with designer's response. A cyclist making a personal choice not to use the safe segregated facilities and to remain on carriageway is an acceptable use of the highway in this location. It is not unsafe or any different to locations where segregated facilities do not exist.

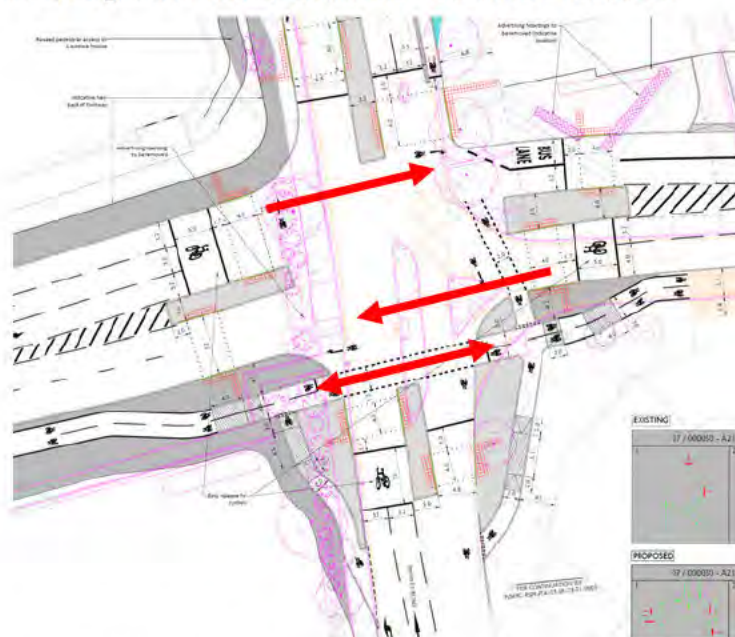
3.5 DRAWING NO. PJ569C-RSM-FEA-07-SK-TE-01-0004

3.5.1 PROBLEM

Location: D1 – Catford Road junction with Bromley Road.

Summary: Cyclists may stay on the carriageway rather than use the segregated facilities if it is perceived to be a quicker / more direct route. This could increase the risk of collisions between cyclists and general traffic.

The proposed method of control requires east / westbound cyclists to proceed with pedestrians rather than traffic travelling in the same direction. While the signal timings at this stage are unknown, it is likely that east / westbound general traffic will receive more green time than pedestrians and cyclists. As a result, some cyclists may instead choose to stay on carriageway rather than utilise the segregated facilities as it could be quicker and more direct. Cyclists staying on carriageway may be at a greater risk of collisions with motor vehicles.



RECOMMENDATION

It is recommended that the signal staging / green timing given to cyclists is equivalent to that afforded to general traffic travelling in the same direction to ensure that the cycle facilities are given a similar level of priority and to encourage their use.

Design Organisation Response	Accepted / Part Accepted / Rejected
<p>Preliminary modelling suggested that this junction was over-capacity and significant changes (including replacing straight across pedestrian crossings with staggered facilities) were made to reduce delays and minimise the cycle time for all road users, including pedestrian and cyclists. Giving cyclists the same green timing as general traffic travelling in the same direction has been discussed with Network Performance and although not modelled it is anticipated that this would create extensive delays for general traffic, including buses, at this junction. In addition it is likely that a longer cycle time would be required which would increase delays for all junction users, including pedestrians and cyclists. With longer wait times pedestrians may be more likely to cross against the red man increasing the risk of conflict with vehicles.</p>	<p><u>East-west cyclists do benefit from a straight across link rather than being forced to</u></p>

use the staggered facility provided for pedestrians.

The east-west cycle facility proposed as part of this scheme runs only from Sangley Road in the east to the rail bridge in the west. The highway over the rail bridge at Catford stations and to the west of the scheme is not ideal for cyclists and it envisaged that only confident cyclists would use the corridor. These cyclists may not use the proposed facility owing to the limited length and the delays which would be incurred joining and leaving the facility. The facility has been included in this scheme to protect the space for a future proposal (not part of this scheme and not funded) to provide a pedestrian and cycle bridge to the south of the existing rail bridge which would link into the popular Ravensbourne Link, part of NCN Route 21.

To assist east-west cyclists who do not use the off carriageway facility appropriate lane widths, ASLs and passing width at bus stops has been included in the carriageway design.

Client Organisation Comments

Agree with designer's response. A cyclist making a personal choice not to use the safe segregated facilities and to remain on carriageway is an acceptable use of the highway in this location. It is not unsafe or any different to locations where segregated facilities do not exist.

3.5.2 PROBLEM

Location: D2 – Rushey Green southbound, exit onto Bromley Road.

Summary: The alignment of the southbound exit onto Bromley Road may result in cyclists continuing south being squeezed into the kerb by adjacent southbound traffic. This may result in side swipe or loss of control type collisions

Southbound cyclists on Rushey Green are segregated up until the junction with Catford Road. The alignment of the southbound exit onto Bromley Road may result in those cyclists continuing south being squeezed into the kerb by adjacent southbound traffic. This may result in side swipe or loss of control type collisions (it is appreciated that facilities have been proposed to permit cyclists to join the east-westbound track, and these could also be used by cyclists continuing south, however this route will be longer and less direct and, as such, may not be used).



RECOMMENDATION

It is recommended that suitable facilities are provided to accommodate cyclists continuing south onto Bromley Road.

Design Organisation Response	Accepted / Part Accepted / Rejected
<p>One ahead traffic lane is provided at the southbound stop line on Rushey Green and a minimum lane width of 4.8m is provided at the southern end of the pedestrian island on the exit from the junction. There should therefore be sufficient space for vehicles to pass cyclists safely, however it is acknowledged that cyclists on the exit are unprotected if they choose not to use the cycle facilities provided. Physical protection for cyclists on the exit from the junction was investigated but the swept path of vehicles turning left from Sangley Road precluded its introduction.</p> <p>To highlight the presence of cyclists southbound on the exit from the junction cycle logos have been proposed.</p>	

Client Organisation Comments

Agree with designer's response. Suitable facilities have been provided to accommodate cyclists continuing south onto Bromley Road. A cyclist making a personal choice not to use the safe segregated facilities and to remain on carriageway is an acceptable use of the highway in this location, even if it is perceived to present a higher level of risk.

3.5.3 PROBLEM

Location: D3 – Bromley Road northbound, junction with Catford Road.

Summary: No provision is made for cyclists continuing north towards Rushey Green. This could increase the risk of left hook type collisions.

No cycling facilities are provided to assist cyclists continuing north onto Rushey Green. The lack of dedicated provision may increase the risk of left hook type collisions between cyclists continuing ahead and traffic turning left onto Catford Road.



RECOMMENDATION

It is recommended that measures are provided to better accommodate northbound cyclists at the junction.

Design Organisation Response	Accepted / Part Accepted / Rejected
<p>A 'hold the left' facility was proposed northbound on Bromley Road but initial modelling identified that this junction was over capacity resulting in delays for all users and a long cycle time. With longer wait times there was concern that pedestrians may be more likely to cross against the red man increasing the risk of conflict with vehicles. Modelling tests demonstrated that removing this facility (together with other changes) reduced delays to all road users.</p> <p>At a meeting on the 4th October 2019 with IDP, NP, PPD and Engineering it was agreed that the facility would be removed.</p> <p>To mitigate the risks of left turn hook conflicts for northbound cyclists a 7m ASL has been introduced and an early release for cyclists is proposed, in addition the nearside lane is proposed to be left turn only except cyclists and buses and is 3.2m</p>	

wide to encourage cyclists to take a prominent position and increase their conspicuity.

Client Organisation Comments

Agree with the designer's response and design inclusions to mitigate the risk highlighted.

3.6 DRAWING NO. PJ569C-RSM-FEA-07-SK-TE-01-0005

The Audit Team has not identified any drawing specific features of the scheme that could be removed or modified in order to improve the road safety of the measures.

3.7 DRAWING NO. PJ569C-RSM-FEA-07-SK-TE-01-0006

3.7.1 PROBLEM

Location: E1 – Sangley Road, adjacent to the two bus stops.

Summary: A lack of suitable pedestrian facilities at / near to the desire line could increase the risk of crossing pedestrians being struck by opposing traffic.

An existing footpath link to a retail park is likely to encourage pedestrians to cross at this location between the bus stops and / or to access the supermarket. A lack of suitable nearby facilities may increase the risk of pedestrians crossing the carriageway away from crossing facilities and utilising the central hatching to cross the carriageway to two stages. This could increase the risk of pedestrian collisions occurring.



RECOMMENDATION

It is recommended that adequate facilities are provided to accommodate likely pedestrian desire lines.

Design Organisation Response	Accepted / Part Accepted / Rejected
Controlled pedestrian crossings are provided 70m to the east and 65m to the west. The provision of an additional crossing at this location is not possible owing to the private accesses and bus stops. The line markings have been amended to remove the central hatching to deter pedestrians who may use it to wait.	
Client Organisation Comments	
Agree with the designer's response.	

3.8 DRAWING NO. PJ569C-RSM-FEA-07-SK-TE-01-0007

The Audit Team has not identified any drawing specific features of the scheme that could be removed or modified in order to improve the road safety of the measures.

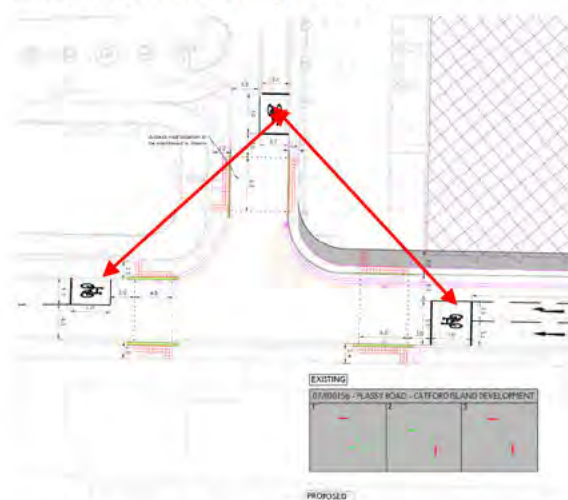
3.9 DRAWING NO. PJ569C-RSM-FEA-07-SK-TE-01-0008

3.9.1 PROBLEM

Location: F1 – Plassey Road junction with Catford Island Retail Park

Summary: Reduced junction inter-visibility could result in collisions between pedestrians and opposing traffic.

Junction intervisibility is restricted by the property boundaries and the setback alignment of the crossing carpets. Drivers of vehicles turning through the junction may not be able to see or be seen by pedestrians using the crossings. This could increase the risk of collisions between turning traffic and pedestrians. It is appreciated that this is in part an existing problem for traffic on the northern and western arms of the junction.



RECOMMENDATION

It is recommended that junction intervisibility is maximised. This could be achieved by relocating the crossings closer to the junction and narrowing the crossing carpets

Design Organisation Response	Accepted / Part Accepted / Rejected
<p>The junction is constrained. Owing to the swept paths of vehicles entering and exiting the site the stop lines must be set back to ensure turning vehicles do not conflict with vehicles waiting at the stop lines.</p> <p>If the location and width of the pedestrian crossing were limited to the junction intervisibility zone the pedestrian crossings would be very narrow.</p> <p>To mitigate this Problem the crossing on the northern arm of the junction has been moved south into the junction while the crossing on the western arm of the junction has been narrowed. The offset between the pedestrian studs and the cycle stop line on the southern arm is already 3m (from the standard 1.7m). These changes should reduce the area of limited visibility.</p> <p>However these changes result in the distance between the cycle stop line and the pedestrian studs exceeding the standard 3m (1.7m with an ASL). This may result in cyclists and drivers encroaching into the junction, crossing their respective stop lines and being at risk of being struck by turning vehicles.</p> <p>The crossings could be further reduced in width but this would increase the distance between the cycle stop line and the pedestrian crossing exacerbating the risk above.</p>	

Pedestrians may also choose to cross between the studs and the vehicle stop lines.

The crossings have not been moved further into the junction as this would place some areas of the crossing on kerb radii. With crossings on kerb radii it can become difficult to correctly locate the pedestrian push button (they can become located slightly behind the main pedestrian crossing where they may not be expected by visually impaired pedestrians). The crossing length is also increased resulting in pedestrians being in the carriageway for longer with greater exposure to vehicles. Increased crossing lengths also increase the crossing times which can impact junction operation and result in longer wait times for pedestrians and increased delays for all road users.

The Catford Island site is currently the subject of redevelopment plans. Preliminary indications suggest that this junction will be removed. It is proposed that this Problem be reviewed again at Concept Design when details of the redevelopment will be better understood.

Client Organisation Comments

Agree with the designer's response.

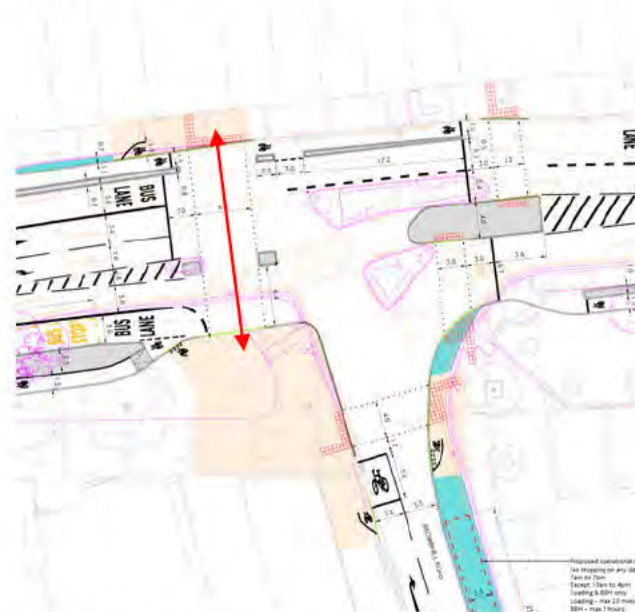
3.10 DRAWING NO. PJ569C-RSM-FEA-07-SK-TE-01-0009

3.10.1 PROBLEM

Location: G1 – Rushey Green junction with Brownhill Road, split phase signal staging.

Summary: Single stage crossing across split phase traffic movements may result in pedestrians stepping out in front of oncoming traffic.

The signal staging has split phasing on the Rushey Green northbound approach to the junction whereby the ahead and the dedicated right turn lane operate in separate stages. Pedestrians at the crossings may observe stationary traffic in one lane and incorrectly assume traffic in the adjacent lanes is also held. Pedestrians crossing out of phase may therefore inadvertently step into the path of moving vehicles, risking collision.



RECOMMENDATION

It is recommended that the signal staging is adjusted to remove the potential misunderstanding. If this is not possible, maximise the distance between the stop line and pedestrian crossing studs to provide increased intervisibility between pedestrians and opposing traffic

Design Organisation Response	Accepted / Part Accepted / Rejected
<p>Amending the signal staging would introduce an opposed right turn (see Problem 3.1.1) or would require the north and southbound traffic movements to run separately. Although not modelled it is anticipated that this latter option would result in delays, queues and require an increase in the cycle time, to the detriment of all road users through the junction.</p> <p>Owing to the proposed staging it is not anticipated that many (if any) pedestrians will cross from east to west to the central island while the right turn is held. The problem will therefore be limited to a small number of pedestrians who may have become trapped on the island following the end of the green man.</p> <p>Increasing the separation between the studs and the stop line sufficiently to provide</p>	

sufficient intervisibility will increase lost time at the junction and may disbenefit a wider pedestrian group by increasing the cycle time.

Client Organisation Comments

Agree with the designer's response.

3.11 DRAWING NO. PJ569C-RSM-FEA-07-SK-TE-01-0010

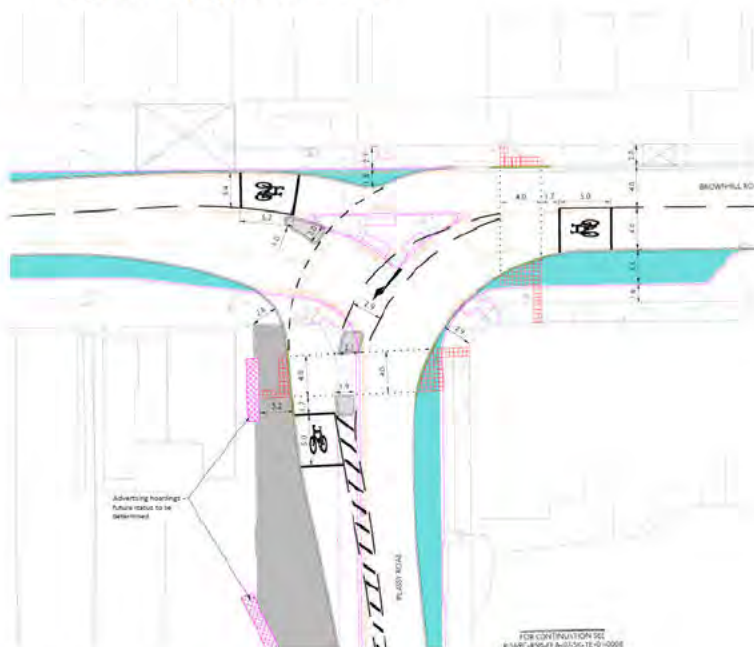
3.11.1 PROBLEM

Location: H1 – Plassey Road junction with Brownhill Road

Summary: Traffic waiting to turn right may block the path of following vehicles. This could result in vehicles mounting the kerb to negotiate queuing traffic, or turning drivers feeling under pressure to accept an inappropriate gap, risking failure-to-give-way type collisions.

A right turn pocket is proposed on the corner radius for westbound traffic turning right into Brownhill Road. The length and alignment of the pocket means it may only be able to accommodate a single vehicle, and larger vehicles may block the carriageway all together. This may pose the following problems:

- A) Drivers wanting to continue south may mount the kerb to pass traffic waiting to turn right. This could result in collisions with pedestrians on the footway.
- B) Drivers waiting to turn right may feel under pressure to make their manoeuvre quickly. This could result in drivers accepting an inappropriate gap, risking failure to give way type collisions.



RECOMMENDATION

It is recommended that the traffic flow modelling is assessed to determine the likely queue lengths, and, if required, the junction layout at the junction adjusted to better accommodate likely traffic flows and proposed operation / method of control.

Design Organisation Response	Accepted / Part Accepted / Rejected
The junction is constrained by existing building lines and there is little opportunity to amend the layout.	
Tracking indicates that up to 3 large cars can be accommodated within the junction and a large car can still proceed left onto Plassy Road. However the current modelling does indicate that right turning vehicles will block vehicles turning from east to south.	

This junction and Problem have been discussed with Network Performance who have advised that signal operational strategies will be developed as the scheme progresses which, if adopted, may help to alleviate this issue.

Client Organisation Comments

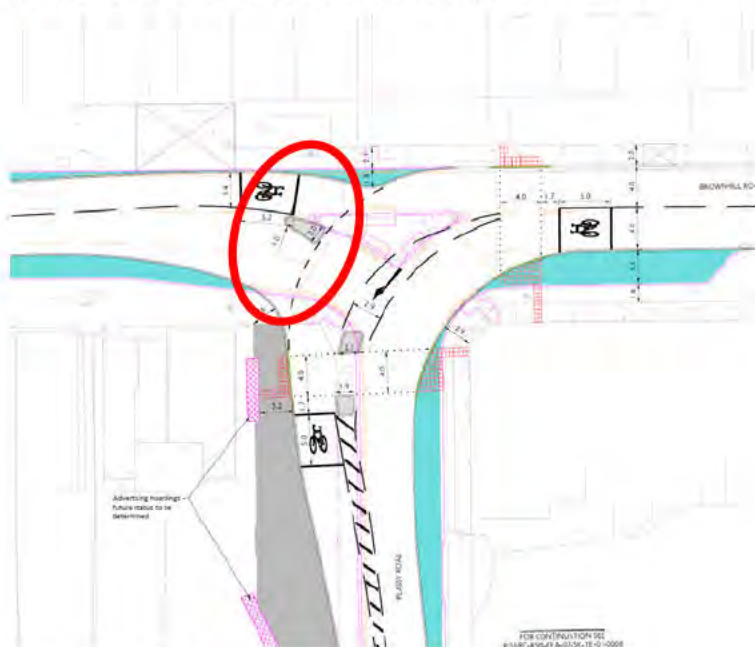
Agree with the designer's response. Road space at this location is very constrained, limiting any further physical improvements to the design, so a best balance of network operation will need to be found.

3.11.2 PROBLEM

Location: I1 – Plassey Road junction with Brownhill Road; western arm

Summary: Removal of pedestrian crossing facilities may increase the risk of pedestrian collisions.

The removal of the existing controlled pedestrian crossing facilities on the western arm of the junction may result in pedestrians intending to continue to cross the western arm utilising the proposed traffic island across the desire line. This may increase the risk of trips and falls negotiating raised kerbs and / or increase the risk of pedestrian collisions with opposing road users.



RECOMMENDATION

It is recommended that the need to retain pedestrian crossing provision on the western arm is reassessed.

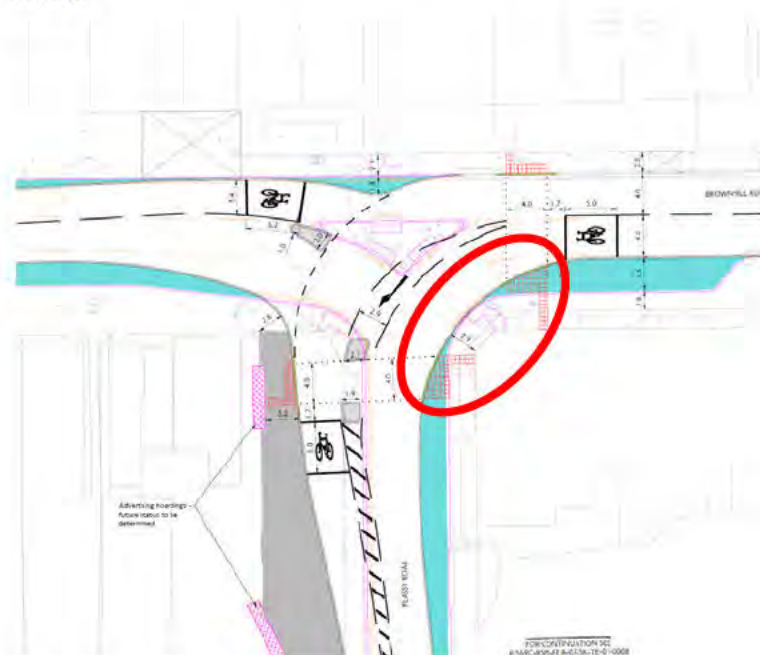
Design Organisation Response	Accepted / Part Accepted / Rejected
Owing to the presence of existing private accesses it is not possible to provide a pedestrian crossing over the western arm of the junction.	
The island is required to house signals heads to ensure the safe operation of the junction and cannot be removed.	
Client Organisation Comments	
Agree with the designer's response.	

3.11.3 PROBLEM

Location: I2 – Plassey Road junction with Brownhill Road; south eastern side crossing points.

Summary: Crossing points on radius kerbs may increase the risk of collisions involving visually impaired pedestrians.

It is proposed to provide the southern side of the eastern arm crossing and eastern side of the southern arm crossings on a radius kerb. Dropped kerbs on radius curves can cause confusion as to the intended direction of the crossings to visually impaired users. Visually impaired users may approach the crossings and believe them to be perpendicular to the actual direction of the crossing. This can increase the risk of visually impaired pedestrians inadvertently stepping out into the path of opposing traffic.



RECOMMENDATION

It is recommended that the layout of the junction is adjusted so that pedestrian crossings are not provided on radius curves.

Design Organisation Response	Accepted / Part Accepted / Rejected
<p>Relocating the pedestrian crossings to ensure they are not provided on radius kerbs will result in a worsening of the junction intervisibility and reduce the ability of drivers turning through the junction to see or be seen by pedestrians using the crossings. This could increase the risk of collisions between turning traffic and pedestrians.</p> <p>Relocating the crossings would also increase intergreens at the junction, increasing lost time and potentially increasing delays for general traffic, including buses. In addition it is likely that a longer cycle time would be required which would increase delays for all junction users, including pedestrians and cyclists. With longer wait times pedestrians may be more likely to cross against the red man which with limited junction intervisibility would increase the risk of conflict with vehicles.</p> <p>Appropriate tactile paving will be introduced to guide visually impaired pedestrians safely through the junction.</p>	

Client Organisation Comments

Agree with the designer's response. This location is very constrained and amending the design will result in new issues. It is felt, therefore, that the current design presents the best balance of remaining issues and risk.

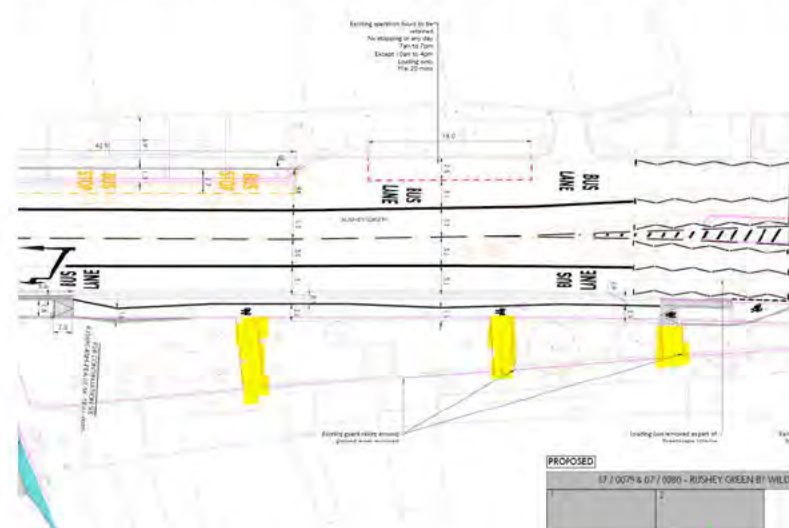
3.12 DRAWING NO. PJ569C-RSM-FEA-07-SK-TE-01-0011

3.12.1 PROBLEM

Location: J1 – Rushey Green; southeastern side crossing points.

Summary: Footpath links to cycle track may increase the risk of pedestrian versus cycle collisions.

There are existing footpath links between the footway and shop frontage walkway. The conversion of the footway to southbound cycle track may encourage pedestrians to walk within the cycle track and increase the risk of pedestrian to cycle collisions.



RECOMMENDATION

It is recommended that the footpath links are removed.

Design Organisation Response	Accepted / Part Accepted / Rejected
To be discussed with the Urban Realm designer and addressed at Concept Design.	
Client Organisation Comments	

Agree with the designer's response. The London Squares are intended to be upgraded and the current design of the London Squares is likely to change in this location. We will liaise with the urban designers to ensure the future design mitigates this risk.

3.13 DRAWING NO. PJ569C-RSM-FEA-07-SK-TE-01-0012

The Audit Team has not identified any drawing specific features of the scheme that could be removed or modified in order to improve the road safety of the measures.

3.14 DRAWING NO. PJ569C-RSM-FEA-07-SK-TE-01-0013

The Audit Team has not identified any drawing specific features of the scheme that could be removed or modified in order to improve the road safety of the measures.

3.15 DRAWING NO. PJ569C-RSM-FEA-07-SK-TE-01-0014

The Audit Team has not identified any drawing specific features of the scheme that could be removed or modified in order to improve the road safety of the measures.

3.16 DRAWING NO. PJ569C-RSM-FEA-07-SK-TE-01-0015

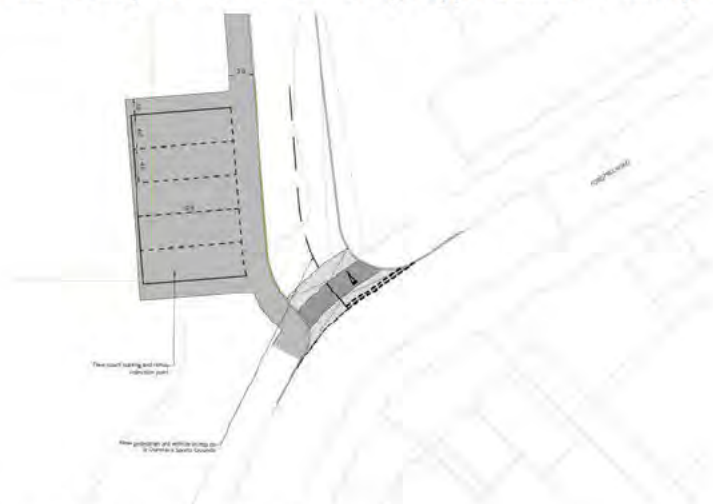
The Audit Team has not identified any drawing specific features of the scheme that could be removed or modified in order to improve the road safety of the measures.

3.17 DRAWING NO. PJ569C-RSM-FEA-07-SK-TE-01-0016

3.17.1 PROBLEM

- Location:** K1 – Fordmill Road j/w St. Dunstan’s Sports Ground access;
Summary: On-street parking in the vicinity of the proposed access may increase the risk of side swipe and failure to give way type collisions.

On street parking was observed on both sides of the proposed access junction and opposite. There is concern that vehicles parked within the visibility splay of the junction could obstruct the view to / from vehicles / drivers within the access. This may lead to drivers pulling out of the access into the path of road users and resulting in failure to give way type collisions. In addition, vehicles parked around the access junction may obstruct the path of larger vehicles turning into/ out of the junction increasing the risk of side swipe type collisions with parked vehicles.



RECOMMENDATION

It is recommended that suitable parking restrictions are provided around the junction to keep the visibility splay and swept paths free from obstructions.

Design Organisation Response	Accepted / Part Accepted / Rejected
Suitable parking restrictions have been identified on the drawing.	
Client Organisation Comments	
Agree with the designer’s response.	

3.18 DRAWING NO. PJ569C-RSM-FEA-07-SK-TE-01-0017

The Audit Team has not identified any drawing specific features of the scheme that could be removed or modified in order to improve the road safety of the measures.

3.19 DRAWING NO. PJ569C-RSM-FEA-07-SK-TE-01-0018

The Audit Team has not identified any drawing specific features of the scheme that could be removed or modified in order to improve the road safety of the measures.

3.20 DRAWING NO. PJ569C-RSM-FEA-07-SK-TE-01-0019

The Audit Team has not identified any drawing specific features of the scheme that could be removed or modified in order to improve the road safety of the measures.

3.21 DRAWING NO. PJ569C-RSM-FEA-07-SK-TE-01-0020

The Audit Team has not identified any drawing specific features of the scheme that could be removed or modified in order to improve the road safety of the measures.

3.22 DRAWING NO. PJ569C-RSM-FEA-07-SK-TE-01-0021

The Audit Team has not identified any drawing specific features of the scheme that could be removed or modified in order to improve the road safety of the measures.

3.23 DRAWING NO. PJ569C-RSM-FEA-07-SK-TE-01-0022

The Audit Team has not identified any drawing specific features of the scheme that could be removed or modified in order to improve the road safety of the measures.

End of list of problems identified and recommendations offered in this Stage 1 Road Safety Audit

4.0 ISSUES IDENTIFIED DURING THE STAGE 1 ROAD SAFETY AUDIT THAT ARE OUTSIDE THE TERMS OF REFERENCE

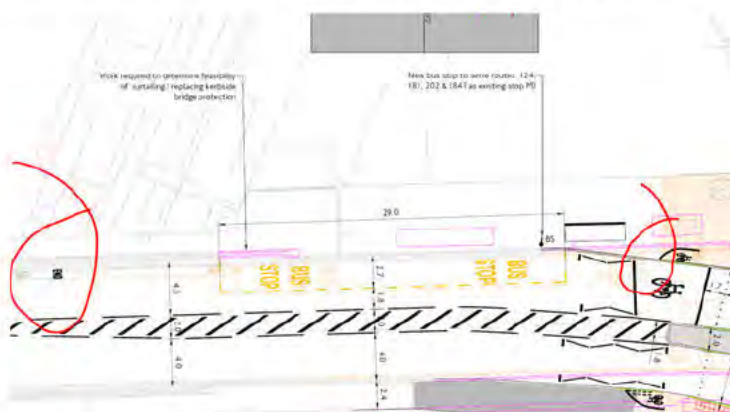
Safety issues identified during the audit and site inspection that are considered to be outside the Terms of Reference, but which the Audit Team wishes to draw to the attention of the Client Organisation, are set out in this section. It is to be understood that, in raising these issues, the Audit Team in no way warrants that a full review of the highway environment has been undertaken beyond that necessary to undertake the Audit as commissioned.

4.1 ISSUE

Location: 1 – Drawing No. PJ569C-RSM-FEA-07-SK-TE-01-0001, Cycle facilities.

Reason considered to be outside the Terms of Reference: Item for consideration rather than a defined road safety concern.

There is a short gap in service between the existing and proposed westbound cycle facilities. It is recommended that the facilities are suitably linked.



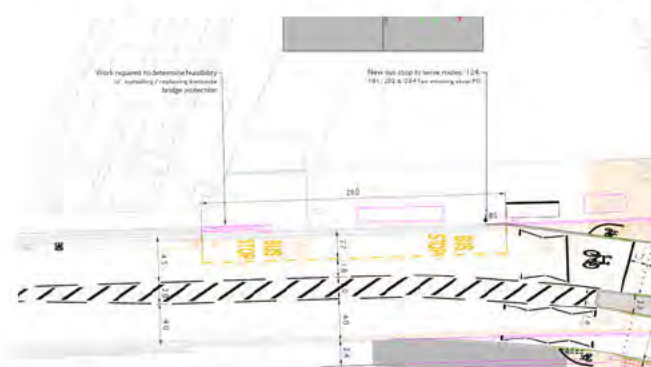
Design Organisation Response	Accepted / Part Accepted / Rejected
Owing to the bridge deck with narrow footway and VRS a segregated cycle facility is not possible at this stop. It is therefore proposed to add cycle logs to TSRGD 1057 to highlight the presence of cyclists to road users.	
Client Organisation Comments	
Agree with the designer's response.	

4.2 ISSUE

Location: 2 – Drawing No. PJ569C-RSM-FEA-07-SK-TE-01-0001, Eastbound traffic lane.

Reason considered to be outside the Terms of Reference: Item for consideration rather than a defined road safety concern.

Eastbound traffic may not be able to pass stationary buses at the bus stops without encroaching into the proposed central hatching. The hatched markings are likely to wear quickly due to being overrun. It is recommended that suitable traffic lane widths are provided to avoid the need for eastbound traffic to overrun the hatching.



Design Organisation Response	Accepted / Part Accepted / Rejected
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See also response to Problem 3.2.1

This is a constrained location and visibility to the new pedestrian crossing to the east is limited. While an SSD close to that for 20mph has been provided and a 20mph speed limit is proposed there is a risk that vehicles will be travelling in excess of this speed. In an attempt to mitigate the risk of limited visibility to eastbound traffic and encourage lower speeds the lane past the bus stop has been reduced. Vehicles overtaking a bus at the stop must enter the central hatched area to overtake and it is hoped that this will encourage caution and lower speeds.

Client Organisation Comments

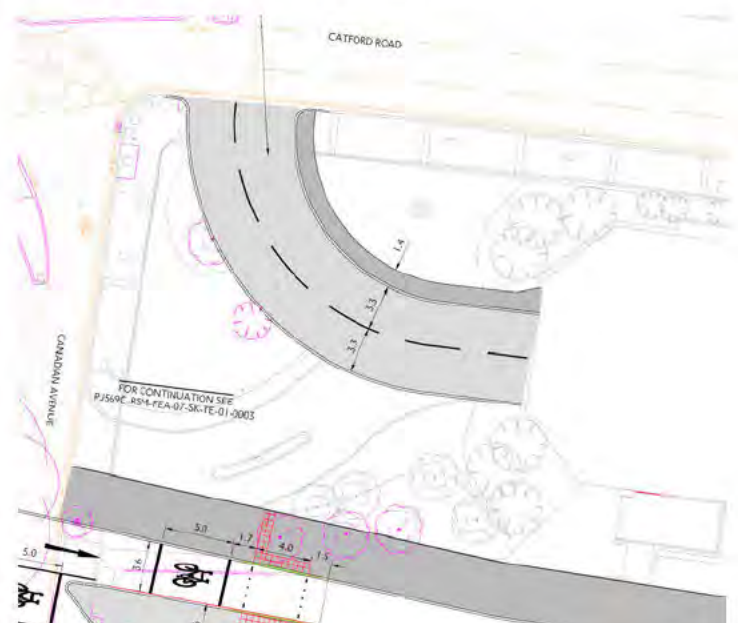
Agree with the designer's response.

4.3 ISSUE

Location: 3 – Drawing No. PJ569C-RSM-FEA-07-SK-TE-01-0003, Laurence House Service Access.

Reason considered to be outside the Terms of Reference: Item for consideration rather than a defined road safety concern.

There is an existing vehicle / service access to Laurence House that will be located within the new public realm area. It is not clear how vehicular access to the new service road will be maintained. It is also noted that the proposed footway of 1.4m is too narrow to accommodate mobility impaired and pushchair users. It is recommended that suitable measures are provided to maintain access and that suitable footway widths are provided.



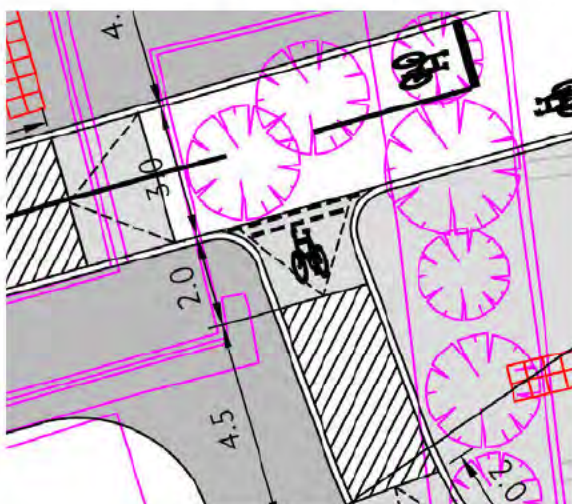
Design Organisation Response	Accepted / Part Accepted / Rejected
<p>The drawing has been amended to show the proposed vehicle route through the new public realm area including the route to the Laurence House underground car park.</p> <p>In respect of the new access to the underground car park the design replicates the existing layout. The footway does not serve as a public access to the building and is believed to be lightly used.</p> <p>The footway width can be widened if necessary and this will be discussed with the LB Lewisham who own the building.</p>	
Client Organisation Comments	
<p>Agree with the designer's response.</p>	

4.4 ISSUE

Location: 4 – Drawing No. PJ569C-RSM-FEA-07-SK-TE-01-0004, north to west cycle lane.

Reason considered to be outside the Terms of Reference: Item for consideration rather than a defined road safety concern.

The junction radii for cyclists travelling north to west appears very tight. Cyclists with large cycle types are unlikely to be able to keep their cycles within the confinements of the facilities without obstructing the path of opposing users. It is recommended that a suitable geometry is provided to at the junction for left turning north to west cyclists.



Design Organisation Response	Accepted / Part Accepted / Rejected
Radii increased from 1m to 2m. A larger radius was reviewed but owing to the close proximity of the cycle track and pedestrian crossings a smaller radii was favoured to encourage lower cycle speeds.	
Client Organisation Comments	
Agree with designer's response and proposed design amendments.	

4.5 ISSUE

Location: 5 – Drawing No. PJ569C-RSM-FEA-07-SK-TE-01-0004, westbound cycle lane.

Reason considered to be outside the Terms of Reference: Item for consideration rather than a defined road safety concern.

The horizontal alignment for cyclists travelling westbound appears to have a sharp left hand deflection. Cyclists with large cycle types are unlikely to be able to keep their cycles within the confinements of the westbound lane without obstructing the path of opposing users. It is recommended that a suitable geometry is provided along the cycle facility.



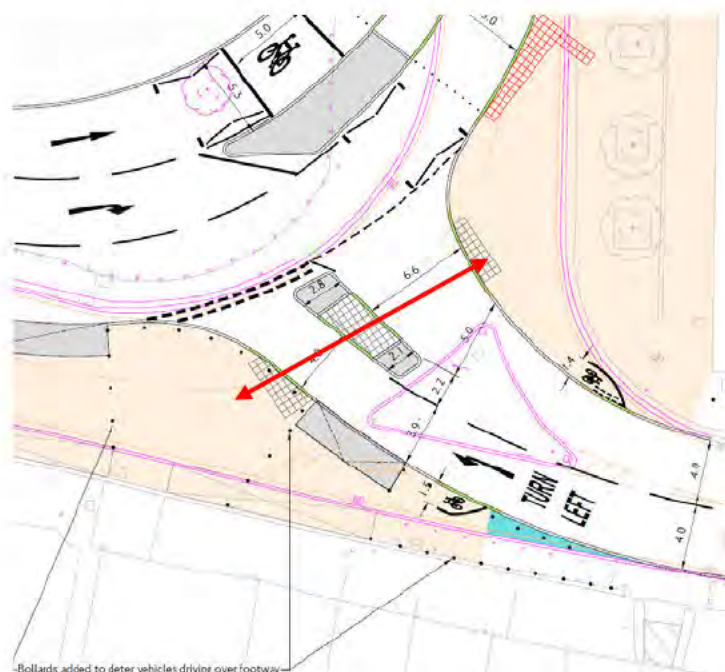
Design Organisation Response	Accepted / Part Accepted / Rejected
Radii increased to 10m. LTN 01/20 suggests this should be appropriate for designs speeds of c. 10mph and lower cycle speeds are anticipated, and encouraged, in this environment.	
Client Organisation Comments	
Agree with designer's response and proposed design amendments.	

4.6 ISSUE

Location: 6 – Drawing No. PJ569C-RSM-FEA-07-SK-TE-01-0006, Sangley Road, east of Plassey Road, uncontrolled pedestrian crossing across the mouth of the junction.

Reason considered to be outside the Terms of Reference: Item for consideration rather than a defined road safety concern.

An uncontrolled pedestrian crossing is proposed across the mouth of the Sangley Road priority junction, linking the shared use footway north-south. The width of the refuge island may not accommodate all types of cycle. The uncontrolled nature of the crossing also reduces the continuity of route for cyclists. It is recommended that a dedicated cycle crossing is provided to give greater accessibility and continuity of route for all users.



Design Organisation Response	Accepted / Part Accepted / Rejected
<p>The initial aim was to signalise this junction and provide controlled pedestrian and cycle facilities over Sangley Road however the presence of uncontrolled accesses and existing off carriageway parking meant that this option was not possible. The same private accesses and off carriageway parking preclude the provision of a controlled cycle crossing at this location and to the east along Sangley Road.</p> <p>The proposed island width is 2.2m to 2.6m, sufficient to accommodate a solo upright cycle (1.8m long – LTN 1/20) but insufficient to accommodate a ‘cycle design vehicle’ (2.8m (max) – LTN 1/20). It may be possible to increase the island width but it is anticipated that this would require a significant redesign of the junction and would relocate the proposed signalised crossing to the north.</p> <p>It is proposed that this design be taken to Consultation and the island widened at Concept design if required.</p>	
<p>Client Organisation Comments</p>	

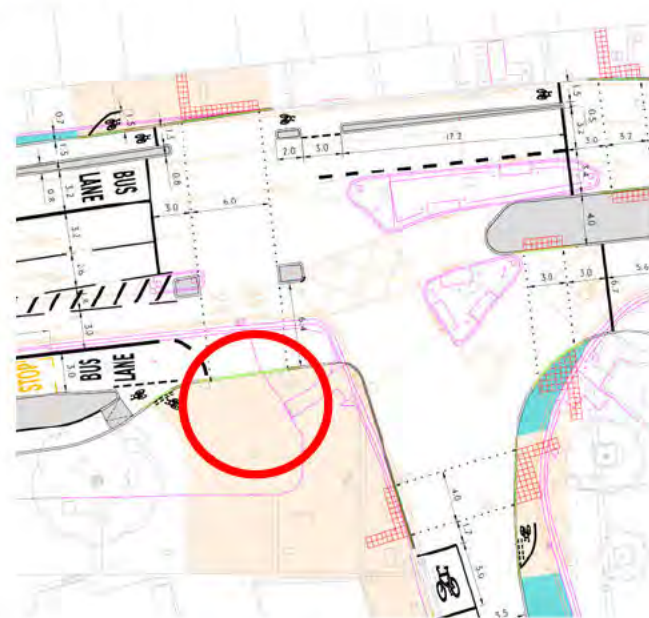
Agree with designer's response.

4.7 ISSUE

Location: 7 – Drawing No. PJ569C-RSM-FEA-07-SK-TE-01-0009, Rushey Green northbound, proposed pedestrian crossing on junction exit.

Reason considered to be outside the Terms of Reference: Drawing Anomaly.

There appears to be tactile paving missing on the eastern side crossing point on the south side of the junction. It is recommended that the tactile paving is provided to standard.



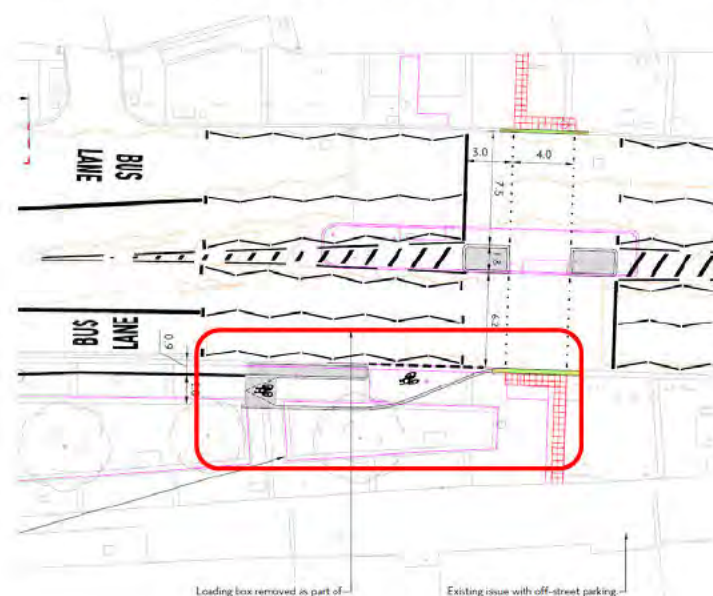
Design Organisation Response	Accepted / Part Accepted / Rejected
Appropriate tactile paving added.	
Client Organisation Comments	
Agree with designer's response and proposed design amendments.	

4.8 ISSUE

Location: 8 – Drawing No. PJ569C-RSM-FEA-07-SK-TE-01-0011, Merva Court (southern footway adjacent to existing signal-controlled pedestrian crossing).

Reason considered to be outside the Terms of Reference: Item for consideration rather than a defined road safety concern.

Vehicles appear to be utilising the existing dropped kerb of the controlled pedestrian crossing to access the frontage of Merva Court to park. Within the revised scheme, drivers may enter the new cycle lane pocket to perform the same manoeuvre. It is recommended that measures are provided to either accommodate the vehicle crossover, or physically prevent vehicle access at this location.



Design Organisation Response	Accepted / Part Accepted / Rejected
It is understood that this issue is being addressed as part of a separate scheme. If it has not been addressed at Concept Design it could be incorporated in this scheme.	
Client Organisation Comments	
Agree with designer's response.	

5.0 SIGNATURES AND SIGN-OFF

5.1 AUDIT TEAM STATEMENT

We certify that we have examined the drawings and documents listed in Appendix A. to this Safety Audit report. The Road Safety Audit has been carried out in accordance with TfL Procedure SQA-0170 dated May 2014, with the sole purpose of identifying any feature that could be removed or modified in order to improve the safety of the measures. The problems identified have been noted in this report together with associated suggestions for safety improvements that we recommend should be studied for implementation.

No one on the Audit Team has been involved with the design of the measures.

AUDIT TEAM LEADER:

Name:

[REDACTED]
BSc. (Hons), FCIHT, FSoRSA, MIHE,
National Highways C of C.

Signed:

[REDACTED]

Date: 11/07/2022

Organisation: Transport for London, Road Safety Audit
Engineering – Roads, Streets and Places

Address: [REDACTED] Palestra, 197 Blackfriars Road, London, SE1 8NJ

Contact:

[REDACTED]

AUDIT TEAM MEMBER:

Name:

[REDACTED]
BSc. (Hons), CMILT, MCIHT, MSoRSA,
National Highways C of C.

Signed:

[REDACTED]

Date: 11/07/2022

Organisation: Transport for London, Road Safety Audit
Engineering Services, Highways Engineering Team

Address: [REDACTED] Palestra, 197 Blackfriars Road, London, SE1 8NJ

Contact:

[REDACTED]

5.2 DESIGN TEAM STATEMENT

In accordance with SQA-0170 dated May 2014, I certify that I have reviewed the items raised in this Stage 1 Safety Audit report. I have given due consideration to each issue raised and have stated my proposed course of action for each in this report. I seek the Client Organisation's endorsement of my proposals.

Name: [REDACTED]
Position: Senior Engineer
Organisation: Highways & Traffic, TfL Engineering & Asset Strategy

Signed: [REDACTED] **Dated:** 8th August 2022

5.3 CLIENT ORGANISATION STATEMENT

I accept these proposals by the Design Organisation.

Name: [REDACTED]
Position: Lead Sponsor
Organisation: City & Investment Delivery Planning, TfL

Signed: [REDACTED] **Dated:** 19 August 2022

APPENDIX A

Documents Forming the Audit Brief

DRAWING NUMBER

PJ569C-RSM-FEA-07-SK-TE-01-0001 to 0024 Rev. P00.4

Catford P004 TRACKS (May 22)-Model

Catford P004 Sports Ground Tracks-Model

DRAWING TITLE

Catford Town Centre Do Maximum Option 2

Swept Path Analysis

Swept Path Analysis

DOCUMENTS

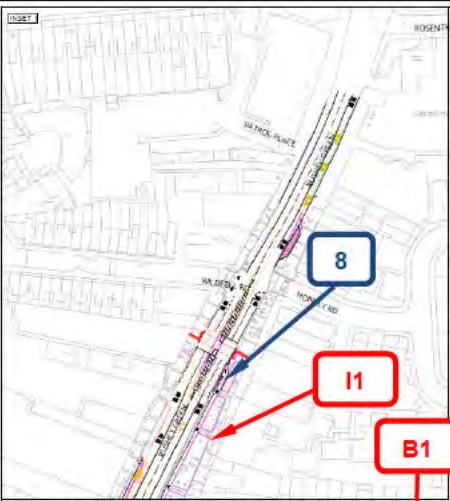
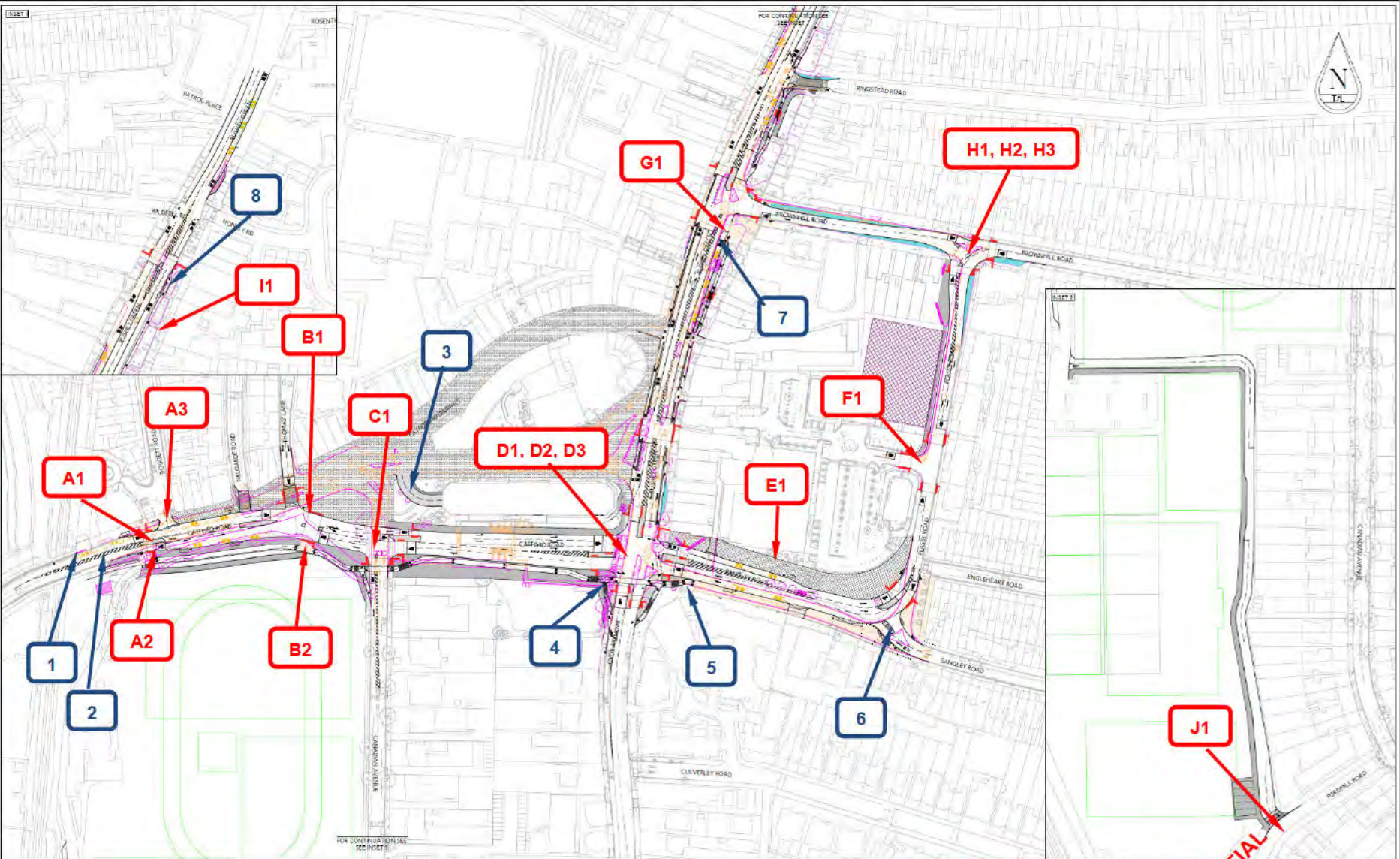
- Safety Audit Brief
- Site Location Plan
- Traffic signal details
- TfL signal safety checklist
- Departures from standard
- Previous Road Safety Audits
- Previous Designer Responses
- Collision data
- Collision plot
- Traffic flow / modelling data
- Pedestrian flow / modelling data
- Speed survey data
- Other documents

DETAILS (where appropriate)

Catford Town Centre - Tracks (P004) - tracking parameter information

APPENDIX B

Problem Locations



FOR CONSULTATION SEE SECTION 2

THESE DRAWINGS HAVE BEEN PREPARED FOR EARLY STAKEHOLDER ENGAGEMENT AND MODELLING. THEY ARE NOT THE FINAL DESIGN DRAWINGS. THEY SHOULD NOT BE USED FOR CONSTRUCTION.

THEY DO NOT SHOW THE FULL DETAILS OF THE PROPOSED SCHEME, INCLUDING IMPACTS ON LEISURE, BUSINESS, STREET FURNITURE AND SIGNAGE.

THESE DRAWINGS ARE SUBJECT TO CHANGE FOLLOWING STAKEHOLDER ENGAGEMENT AND MODELLING.

REV	DATE	BY	CHKD	APPD
001	20/02/2024
002	20/02/2024
003	20/02/2024

TC Engineering Traffic Design Engineering

NON-VERIFIED DESIGN

P/569C-RSM-FA-07-SK-TE-01-0023

001 of 001

DRAFT & CONFIDENTIAL

CATFORD TOWN CENTRE
DO MAXILOTION OPTION - 2
FEASIBILITY DESIGN
OVERVIEW

Small text at the bottom left corner, likely containing project metadata or version information.